CLAIMS

1.   A method of supporting communication with a plurality of communication networks of different link-layer technologies, comprising:

receiving a first Internet Protocol (IP) packet at a logical interface;

processing the first IP packet in accordance with a configuration for the logical interface;

determining a first physical interface as being associated with the logical interface, wherein the first physical interface is one of a plurality of physical interfaces for the plurality of communication networks, and wherein the logical interface is configurable for association with any one of the plurality of physical interfaces; and

passing the processed first IP packet to the first physical interface.

2.   The method of claim 1, wherein the plurality of communication networks are wireless communication networks of different wireless technologies.

3.   The method of claim 1, wherein the first physical interface is for a first communication network among the plurality of communication networks, and wherein the logical interface is associated with the first physical interface for communication with the first communication network.

4.   The method of claim 1, wherein the logical interface is associated with an IP address that remains unchanged regardless of which one of the plurality of physical interfaces is associated with the logical interface.

5.   The method of claim 4, wherein the first IP packet includes the IP address of the logical interface as a source address.

6.   The method of claim 4, wherein the processing includes encapsulating the first IP packet with the IP address of the logical interface.

7.   The method of claim 1, wherein the configuration for the logical interface is dependent on a particular one of the plurality of physical interfaces associated with the logical interface.

8.   The method of claim 1, further comprising:

receiving a second IP packet at the logical interface;

processing the second IP packet in accordance with the configuration for the logical interface;

determining a second physical interface as being associated with the logical interface, wherein the second physical interface is another one of the plurality of physical interfaces; and

passing the processed second IP packet to the second physical interface.

9.   The method of claim 8, wherein the second physical interface is for a second communication network among the plurality of communication networks, and wherein the logical interface is associated with the second physical interface for communication with the second communication network.

10.   The method of claim 1, wherein the plurality of communication networks include a cdma2000 wireless communication network.

11.   The method of claim 1, wherein the plurality of communication networks include a W-CDMA wireless communication network.

12.   The method of claim 1, wherein the plurality of communication networks include an IEEE 802.11-based wireless network.

13.   An apparatus operable to support communication with a plurality of communication networks of different link-layer technologies, comprising:

a first physical interface operative to perform technology-dependent processing for a first communication network among the plurality of communication networks;

a second physical interface operative to perform technology-dependent processing for a second communication network among the plurality of communication networks; and

a logical interface operative to receive and process a first Internet Protocol (IP) packet in accordance with a configuration for the logical interface, determine that the first physical interface is associated with the logical interface, and pass the processed first IP packet to the first physical interface, wherein the logical interface is configurable for association with either the first or second physical interface.

14.   The apparatus of claim 13, wherein the logical interface is further operative to receive and process a second IP packet in accordance with the configuration for the logical interface, determine that the second physical interface is associated with the logical interface, and pass the processed second IP packet to the second physical interface.

15.   The apparatus of claim 13, wherein the logical interface is associated with an IP address that remains unchanged regardless of whether the first or second physical interface is associated with the logical interface, and wherein the first IP packet includes the IP address of the logical interface as a source address.

16.   The apparatus of claim 13, further comprising:

a Mobile IP module operative to configure the logical interface and associate the logical interface with either the first or second physical interface.

17.   An apparatus operable to support communication with a plurality of communication networks of different link-layer technologies, comprising:

means for receiving an Internet Protocol (IP) packet at a logical interface;

means for processing the IP packet in accordance with a configuration for the logical interface;

means for determining a physical interface associated with the logical interface, wherein the physical interface is one of a plurality of physical interfaces for the plurality of communication networks, and wherein the logical interface is configurable for

association with any one of the plurality of physical interfaces; and

means for passing the processed IP packet to the physical interface.

18.   A processor readable media for storing instructions operable in a wireless device to:

receive an Internet Protocol (IP) packet at a logical interface;

process the IP packet in accordance with a configuration for the logical interface;

determine a physical interface associated with the logical interface, wherein the physical interface is one of a plurality of physical interfaces for a plurality of communication networks with different link-layer technologies, and wherein the logical interface is configurable for association with any one of the plurality of physical interfaces; and

pass the processed IP packet to the physical interface.

19.   A method of supporting communication with a plurality of communication networks of different link-layer technologies, comprising:

receiving an Internet Protocol (IP) packet at a physical interface, wherein the physical interface is one of a plurality of physical interfaces for the plurality of communication networks;

processing the IP packet in accordance with a configuration for the physical interface;

determining at least one logical interface associated with the physical interface, wherein each of the at least one logical interface is associated with a respective IP address and is configurable for association with any one of the plurality of physical interfaces;

querying the at least one logical interface; and

passing the processed IP packet to a selected logical interface among the at least one logical interface if a response to the query is received.

20.   The method of claim 19, further comprising:

passing the processed IP packet to an IP layer if the response to the query is not received.

21.   The method of claim 19, wherein the IP address for each of the at least one logical interface remains unchanged regardless of which one of the plurality of physical interfaces is associated with the logical interface.

22.   The method of claim 19, further comprising:

determining one or more candidate logical interfaces, from among the at least one logical interface, for potentially processing the IP packet, and wherein the one or more candidate logical interfaces are queried.

23.   The method of claim 22, wherein the one or more candidate logical interfaces are determined based on an IP address of the IP packet and the IP address of each of the at least one logical interface.

24.   The method of claim 22, wherein the one or more candidate logical interfaces are determined based on processing to be performed on the IP packet.

25.   The method of claim 19, further comprising:

receiving a response to the query from one of the at least one logical interface, and wherein the selected logical interface is the one logical interface with the response.

26.   The method of claim 19, further comprising:

receiving responses to the query from at least two logical interfaces among the at least one logical interface; and

selecting one logical interface among the at least two logical interfaces as the selected logical interface.

27.   The method of claim 26, wherein the one logical interface is selected based on the IP address of the one logical interface.

28.   An apparatus operable to support communication with a plurality of communication networks of different link-layer technologies, comprising:

a first physical interface operative to perform technology-dependent processing for a first communication network among the plurality of communication networks; and

a second physical interface operative to perform technology-dependent processing for a second communication network among the plurality of communication networks, and

wherein each of the first and second physical interfaces is operative to receive and process Internet Protocol (IP) packets in accordance with a configuration for the physical interface, determine at least one logical interface associated with the physical interface, query the at least one logical interface, and pass the processed IP packets to a selected logical interface among the at least one logical interface, and wherein each of the at least one logical interface is associated with a respective IP address and is configurable for association with either the first or second physical interface.

29.   An apparatus operable to support communication with a plurality of communication networks of different link-layer technologies, comprising:

means for receiving an Internet Protocol (IP) packet at a physical interface, wherein the physical interface is one of a plurality of physical interfaces for the plurality of communication networks;

means for processing the IP packet in accordance with a configuration for the physical interface;

means for determining at least one logical interface associated with the physical interface, wherein each of the at least one logical interface is associated with a respective IP address and is configurable for association with any one of the plurality of physical interfaces;

means for querying the at least one logical interface; and

means for passing the processed IP packet to a selected logical interface among the at least one logical interface if a response to the query is received.

30.   A method of supporting communication with a plurality of communication networks of different link-layer technologies, comprising:

identifying a physical interface currently active and used for communication with a communication network among the plurality of communication network, wherein

the physical interface is one of a plurality of physical interfaces for the plurality of communication networks;

    determining capabilities of the physical interface;

    configuring a logical interface to perform processing for Internet Protocol (IP) packets based on the determined capabilities of the physical interface; and

    associating the logical interface with the physical interface.

    31.   The method of claim 30, wherein the capabilities of the physical interface is dependent on the communication network for which the physical interface is used for communication.

    32.   An apparatus operable to support communication with a plurality of communication networks of different link-layer technologies, comprising:

    means for identifying a physical interface currently active and used for communication with a communication network among the plurality of communication networks, wherein the physical interface is one of a plurality of physical interfaces for the plurality of communication networks;

    means for determining capabilities of the physical interface;

    means for configuring a logical interface to perform processing for Internet Protocol (IP) packets based on the determined capabilities of the physical interface; and

    means for associating the logical interface with the physical interface.